

FRESH-WATER MOLLUSCA FROM WHITE LAKE, OAKLAND COUNTY,
MICHIGAN¹

BY FRANK COLLINS BAKER

During July and a part of August, 1925, the writer spent his vacation on the little lake which lies west of the center of Oakland Co., about 15 miles west of Pontiac and 30 miles northwest of Detroit. The lake is one of the many glacial lakes so abundant in this county. It is about one and one-half miles long and three-quarters of a mile wide and has a maximum depth of 28 feet. There are two islands with woodlands, rather high above the surface, one at each end of the lake, and several shoal islands in the center which will sooner or later form one atoll-shaped island with a pool in the center. As this land has apparently not received a name I have christened it Pauline's Island, after my niece who assisted in making collections. The shores are rocky, with sand and gravel bottom in the exposed situations. Behind bars and points, which are numerous, the habitat is swampy and the bottom of mud. White Lake at present has no outlet, the water level having fallen below the old natural outlet, which is now built up with cottages and is called English Beach. To the east of the lake there is a dead lake which was once a third the area of White Lake. It was completely dry in July and August, 1925, the bottom being paved with dead shells. This lake and White Lake once had a common outlet to the south into the Huron River. The ecological features of the fauna and lake will be considered in more detail in another paper. As there will be some delay in the publication of that paper it may be of value to publish a list of the species collected in White Lake and vicinity, several being new records for this section of the state and one probably new record for the state.

¹ Contribution from the Museum of Natural History, University of Illinois, No. 38.

SPECIES FROM WHITE LAKE

<i>Lampsilis siliquoidea rosacea</i> (DeKay).	<i>Pisidium tenuissimum</i> Sterki.
<i>Strophitus rugosus rhombicus</i> (Anthony).	<i>Valvata tricarinata simplex</i> Gould.
<i>Anodonta grandis footiana</i> Lea.	<i>Valvata lewisii</i> Currier.
<i>Anodonta marginata</i> Say.	<i>Amnicola limosa porata</i> (Say).
<i>Sphaerium simile</i> (Say).	<i>Amnicola oneida</i> Pilsbry.
<i>Sphaerium acuminatum</i> (Prime).	<i>Amnicola walkeri</i> Pilsbry.
<i>Musculium rosaceum</i> (Prime).	<i>Campeloma milesii</i> (Lea).
<i>Musculium securis</i> (Prime).	<i>Pseudosuccinea columella</i> (Say).
<i>Musculium truncatum angustatum</i> Sterki.	<i>Galba modicella</i> (Say).
<i>Pisidium compressum</i> Prime.	<i>Galba exigua</i> (Lea).
<i>Pisidium adamsi</i> Prime.	<i>Helisoma antrosa unicarinata</i> (Haldeman).
<i>Pisidium medianum</i> Sterki.	<i>Helisoma pseudotrivolis</i> (Baker).
<i>Pisidium scutellatum</i> Sterki.	<i>Helisoma campanulata</i> (Say).
<i>Pisidium rotundatum</i> Prime.	<i>Gyraulus parvus</i> (Say).
<i>Pisidium variabile</i> Prime.	<i>Menetus exacuus</i> (Say).
	<i>Physa sayii</i> Tappan.

Of the above, *Sphaerium acuminatum* is said by Sterki to be a distinct form but whether an extreme case of variation or a recognizable variety cannot at present be determined. *Musculium truncatum angustatum* appears to be the lake manifestation of *truncatum*. *Amnicola oneida* is the first published record for Michigan. The specimens have been compared with type material from Oneida Lake, N. Y. *Campeloma milesii* has been verified by Walker. *Helisoma pseudotrivolis* occurred in swampy or quiet water habitats behind bars, where vegetation was abundant and the bottom of soft mud. This species differs from *trivolis* in both genitalia and radula.

Dry lake east of White Lake. As already stated, this lake bed is dry and the bottom will soon be meadow land. It is bordered by Typha and the bottom is covered with the large leaves of the yellow lily, *Nymphaea*, indicating that the water table is at present not far below the surface. Eight species were found on the dry bottom, three of which did not occur in White Lake. These are marked with an * in the list.

Pisidium subrotundum concin-
nulum Sterki.*

Musculium rosaceum (Prime).

Musculium securis (Prime).

Galba parva (Lea).*

Helisoma antrosa unicarinata
(Hald.).

Helisoma campanulata rudentis
(Dall).*

Physa sayii Tappan.

Menetus exacuus (Say).

Rudentis is like specimens from Canada and from other parts of Michigan. It is an interesting fact that typical *campanulata* inhabits White Lake while *rudentis* was found only in this extinct lake. The form may be an ecological one, the habitats in Wisconsin pointing in the same direction.

Wood-land pool in kettle hole in woods east of White Lake. This pool is in a deep depression and is overgrown with button-bush. The water in August was but a foot deep in the deepest part and the bottom consisted of soft, sticky mud. Two species were abundant.

Musculium truncatum (Linsley). *Pisidium streatori* Sterki.

In a tamarack swamp south of White Lake there are many summer-dry pools containing sometimes a few inches of water in summer. In these, three species were abundant.

Sphaerium occidentale (Prime). *Planorbula armigera* (Say).

Aplexa hypnorum (Linn.)

In a small stream flowing through the swamp a form of *Physa* was found believed to be *gyrina* but not of the *hildrethiana* form. The stream was never dry and was quite a sizeable brook in the wet season.

In a small brook at the foot of the hill east of the village of Highland a number of mollusks occurred. This is a cold, clear stream of small size, filled with vegetation, the bottom varying from mud to sand, the water shallow.

Sphaerium stamineum (Con.)

Pisidium subrotundum concin-
nulum Sterki

Cameloma rufum (Haldeman)

Physa michiganensis Clench.

The outlet of Grass Lake is a cold stream which has cut a bed three or four feet below the level of the adjacent land. The bottom is usually hard sand or gravel, silty in places. The

current is moderately swift and the water varies from a foot to about three feet in depth. It drains into the Huron River.

<i>Pisidium subrotundum concin-</i>	<i>Sphaerium striatinum</i> (Lam.)
<i>nulum</i> Sterki	<i>Galba exigua</i> (Lea)

<i>Pisidium neglectum</i> Sterki	<i>Physa michiganensis</i> Clench
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The *Pisidium concinnulum* of the streams is said by Sterki to be different from the form found in the dry lake. They are much smaller. This is no doubt true, because a species or variety would scarcely be identical living in two such habitats as a cold, rapid brook and a shallow, quiet lake.

My thanks are due Dr. V. Sterki for the identifications and notes on the Sphaeriidae, Dr. Bryant Walker for assistance in determining the Campeloma and Unionidae, and Dr. Samuel Henshaw, Director Museum of Comparative Zoology, for loaning material in the Anthony collection in that institution.

NOTE ON DONAX CONRADI DESHAYES

BY J. R. LE B. TOMLIN

One of the common species of *Donax* on the Californian coast is usually known, so I gather from recent literature, as *D. conradi* Deshayes. I showed Mrs. Oldroyd the types of this species a few weeks ago and she was inclined (from memory only) to doubt whether it is the shell called *conradi* in California. However that may be, the object of the present note is to point out that there is an earlier name than *conradi* to be used.

D. conradi was described in Proc. Zool. Soc. London, 1854, p. 351, but the part was not actually published until May 16, 1855, and meanwhile Reeve had begun the issue of his monograph of *Donax* in vol. VIII of the "Conchologia Iconica."

I have before me the types of *conradi* Desh. and *contusus* Reeve—the latter described and figured on pl. IV, species and fig. 24, Sept., 1854—and they unquestionably belong to the same species.